**TNF-α (D5G9) Rabbit mAb**

For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** TNF-α, the prototypical member of the TNF protein superfamily, is a homotrimeric type-II membrane protein (1,2). Membrane-bound TNF-α is cleaved by the metallopeptase TACE/ADAM17 to generate a soluble homotrimer (2). Both membrane and soluble forms of TNF-α are biologically active. TNF-α is produced by a variety of immune cells including T cells, B cells, NK cells, and macrophages (1). Cellular response to TNF-α is mediated through interaction with receptors TNF-R1 and TNF-R2 and results in activation of pathways that favor both cell survival and apoptosis depending on the cell type and biological context. Activation of kinase pathways (including JNK, ERK (p44/42), p38 MAPK, and NF-κB) promotes the survival of cells, while TNF-α-mediated activation of caspase-8 leads to programmed cell death (1,2). TNF-α plays a key regulatory role in inflammation and host defense against bacterial infection, notably Mycobacterium tuberculosis in infection, notably (3). The role of TNF-α in autoimmunity is underscored by blocking TNF-α action to treat rheumatoid arthritis and Crohn’s disease (1,2,4).

**Specificity/Sensitivity:** TNF-α (D5G9) Rabbit mAb recognizes endogenous levels of total full length and secreted TNF-α protein. It can detect up to 10 pg of recombinant TNF-α by western blot.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with recombinant human TNF-α protein.

**Western blot analysis of extracts from THP-1 cells differentiated with TPA #4174 (80 nM; overnight), with or without LPS (1 μg/ml; overnight), using TNF-α (D5G9) Rabbit mAb.**

**Recommended Antibody Dilutions:**
- Western blotting: 1:1000
- Immunoprecipitation: 1:50

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

**Background References:**